

# SEQUENCE LISTING

<110> Varner, Judith  
 <120> Methods for Altering Hematopoietic Progenitor Cell Adhesion,  
 Differentiation, and Migration  
 <130> UCSD-10834  
 <160> 97  
 <170> PatentIn version 3.2  
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-2-

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Asn Arg Ser Lys Gly Thr Ala Glu Lys Leu Lys Pro Glu Asp Ile His  
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Met Pro Tyr Ile Ser Thr Thr Pro Ala Lys Leu Arg Asn Pro Cys Thr  
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Asp Ala Tyr Cys Arg Lys Glu Asn Ser Ser Glu Ile Cys Ser Asn Asn  
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Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys Thr  
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cagtactcac	tttttccaaa	tgatcctagt	aattgcctag	aaatatcttt	ctcttacctg	7500
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atgcagttga	taagaggaat	ttggtataat	tatggtgggt	gattattttt	tatactgtat	7620
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Ile Val Thr Cys Gly His Arg Trp Lys Asn Ile Phe Tyr Ile Lys Asn  
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Glu Asn Lys Leu Pro Thr Gly Gly Cys Tyr Gly Val Pro Pro Asp Leu  
20 25 30

Arg Thr Glu Leu Ser Lys Arg Ile Ala Pro Cys Tyr Gln Asp Tyr Val  
35 40 45

Lys Lys Phe Gly Glu Asn Phe Ala Ser Cys Gln Ala Gly Ile Ser Ser  
50 55 60

Phe Tyr Thr Lys Asp Leu Ile Val Met Gly Ala Pro Gly Ser Ser Tyr  
65 70 75 80

Trp Thr Gly Ser Leu Phe Val Tyr Asn Ile Thr Thr Asn Lys Tyr Lys  
85 90 95

Ala Phe Leu Asp Lys Gln Asn Gln Val Lys Phe Gly Ser Tyr Leu Gly  
100 105 110

Tyr Ser Val Gly Ala Gly His Phe Arg Ser Gln His Thr Thr Glu Val  
115 120 125

Val Gly Gly Ala Pro Gln His Glu Gln Ile Gly Lys Ala Tyr Ile Phe  
130 135 140

Ser Ile Asp Glu Lys Glu Leu Asn Ile Leu His Glu Met Lys Gly Lys  
145 150 155 160

Lys

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Pro Thr Gly Gly  
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Tyr Gln Asp Tyr Val Lys Lys Phe Gly Glu Asn Phe Ala Ser  
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Ser Tyr Trp Thr Gly Ser  
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Val Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val  
20 25 30

Pro Ser Thr Val Gln Lys Thr Pro Phe Val Thr His Pro Gly Tyr Asp  
35 40 45

Thr Gly Asn Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln Gln Pro Ser  
50 55 60

Val Gly Gln Gln Met Ile Phe Glu Glu His Gly Phe Arg Arg Thr Thr  
65 70 75 80

Pro Pro Thr Thr Ala Thr Pro Ile Arg His Arg Pro Arg Pro Tyr Pro  
85 90 95

Pro Asn Val Gly Glu Glu Ile Gln Ile Gly His Ile Pro Arg Glu Asp  
100 105 110

Val Asp Tyr His Leu Tyr Pro His Gly Pro Gly Leu Asn Pro Asn Ala  
115 120 125

Ser Thr  
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Arg Glu Asp Val  
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Ile Asp Ala Pro Ser  
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Glu Ile Leu Asp Val Pro Ser Thr  
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Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His Gly  
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Pro Glu Ile Leu Asp Val Pro Ser Thr  
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His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr  
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Glu Ile Leu Asp Val  
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Ile Asp Ala Pro  
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Arg Asp Val  
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Arg Cys Asp Pro Cys  
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<210> 33

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<212> PRT

<213> Homo sapiens

<400> 33

Cys Trp Leu Asp Val Cys  
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<210> 34

<211> 5

<212> PRT

<213> Homo sapiens

<400> 34

Tyr Cys Ala Pro Cys  
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<210> 35  
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Tyr Cys Asp Pro Cys  
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Arg Cys Asp Pro Cys  
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<210> 39  
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Glu Gly Tyr Tyr Gly Asn Tyr Gly Val Tyr Ala  
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Cys Gly Arg Gly Asp Ser Pro Cys  
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<400> 42

Asn Ser Val His Pro Cys Cys Asp Pro Val Thr Cys Glu Pro Arg Glu  
 1 5 10 15

Gly Glu His Cys Ile Ser Gly Pro Cys Cys Arg Asn Cys Lys Phe Leu  
 20 25 30

Asn Ala Gly Thr Ile Cys Lys Arg Ala Met Leu Asp Gly Leu Asn Asp  
 35 40 45

Tyr Cys Thr Gly Lys Ser Ser Asp Cys Pro Arg Asn Arg Tyr Lys Gly  
50 55 60

Lys Glu Asp  
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Met Leu Asp Gly  
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Arg Thr Gln Ile Asp Ser Pro Leu Asn  
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Thr Gln Ile Asp Ser Pro  
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Gln Ile Asp Ser  
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Ile Asp Ser Pro  
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Lys Leu Glu Lys  
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Gly Pro Glu Tyr Leu Asp Val Pro  
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Leu Asp Val Pro  
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Ile Leu Asp Val  
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Tyr Asn Val Asp Thr Glu Ser Ala Leu Leu Tyr Gln Gly Pro His Asn  
1 5 10 15

Thr Ile Phe Gly Tyr Ser Val Val Leu His Ser His Gly Ala Asn Arg  
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Trp Leu Leu Val Gly Ala Pro Thr Ala Asn Trp Leu Ala Asn Ala Ser  
35 40 45

Val Ile Asn Pro  
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Gly Arg Pro Tyr Asn Val Asp Thr Glu Ser Ala Leu Leu Tyr Gln Gly  
1 5 10 15

Pro His Asn Thr Leu Phe Gly Tyr Ser Val Val Leu His Ser His Gly  
20 25 30

Ala Asn Arg Trp Leu Leu Val Gly Ala Pro Thr Ala Asn Trp Leu Ala  
35 40 45

Asn Ala Ser Val Ile Asn Pro Gly Ala Ile Tyr Arg  
50 55 60

<210> 56

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<213> Homo sapiens

<400> 56

Gly Val Pro Thr Gly Arg Pro Tyr Asn Val Asp Thr Glu Ser Ala Leu  
1 5 10 15

Leu Tyr Gln Gly Pro His Asn Thr Leu Phe Gly Tyr Ser Val Val Leu  
20 25 30

His Ser His Gly Ala Asn Arg Trp Leu Leu Val Gly Ala Pro Thr Ala  
35 40 45

Asn Trp Leu Ala Asn Ala Ser Val Ile Asn Pro Gly Ala Ile Tyr Arg  
 50 55 60

Cys Arg Ile Gly Lys Asn Pro Gly Gln Thr  
 65 70

<210> 57  
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<400> 57

Ile Val Thr Cys Gly His Arg Trp Lys Asn Ile Phe Tyr Ile Lys Asn  
 1 5 10 15

Glu Asn Lys Leu Pro Thr Gly Gly Cys Tyr Gly  
 20 25

<210> 58  
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<400> 58

Gly His Arg Trp Lys Asn Ile Phe Tyr Ile Lys Asn Glu Asn Lys Leu  
 1 5 10 15

Pro Thr Gly Gly Cys Tyr Gly Val Pro Pro Asp Leu Arg Thr Glu Leu  
 20 25 30

Ser Lys

<210> 59  
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<400> 59

Ala Pro Cys Tyr Gln Asp Tyr Val Lys Lys Phe Gly Glu Asn Phe Ala  
 1 5 10 15

Ser

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<400> 60

Cys Tyr Gln Asp Tyr Val Lys Lys Phe Gly Glu Asn Phe Ala Ser Cys  
1 5 10 15

Gln Ala Gly Ile Ser Ser Phe Tyr Thr Lys Asp Leu  
20 25

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<212> PRT  
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<400> 61

Gly Ser Ser Tyr Trp Thr Gly Ser Leu Phe Val Tyr Asn Ile  
1 5 10

<210> 62  
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<400> 62

Arg Ser Gln His Thr Thr Glu Val Val Gly Gly Ala Pro Gln His Glu  
1 5 10 15

Gln Ile Gly Lys  
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<210> 63  
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<212> PRT  
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<400> 63

Gly Gly Ala Pro Gln His Glu Gln Ile Gly Lys Ala Tyr Ile Phe Ser  
1 5 10 15

Ile Asp Glu Lys Glu Leu  
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Gly Gly Ala Pro Gln His Glu Gln Ile Gly Lys Ala  
1 5 10

<210> 65  
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<400> 65

Trp Arg Thr Gln Ile Asp Ser Pro Leu Asn Gly Lys  
1 5 10

<210> 66  
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<400> 66

Ser Trp Arg Thr Gln Ile Asp Ser Pro Leu Asn Gly Lys Val  
1 5 10

<210> 67  
<211> 15  
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<400> 67

Ser Trp Arg Thr Gln Ile Asp Ser Pro Leu Asn Gly Lys Val Thr  
1 5 10 15

<210> 68  
<211> 20  
<212> PRT  
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<400> 68

Pro Phe Phe Ser Trp Arg Thr Gln Ile Asp Ser Pro Leu Asn Gly Lys  
1 5 10 15

Val Thr Asn Glu  
20

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<213> Homo sapiens

<400> 69

Ser Arg Lys Leu Glu Lys Gly Ile  
1 5

<210> 70  
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<212> PRT  
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<400> 70

Cys Glu Ser Arg Lys Leu Glu Lys Gly Ile Gln Val  
1 5 10

<210> 71  
<211> 16  
<212> PRT  
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<400> 71

Ala Thr Cys Glu Ser Arg Lys Leu Glu Lys Gly Ile Gln Val Glu Ile  
1 5 10 15

<210> 72  
<211> 27  
<212> PRT  
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<400> 72

Leu Cys Thr Ala Thr Cys Glu Ser Arg Lys Leu Glu Lys Gly Ile Gln  
1 5 10 15

Val Glu Ile Tyr Ser Phe Pro Lys Asp Pro Glu  
20 25

<210> 73  
<211> 13  
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<400> 73

Gly His Lys Lys Leu Glu Lys Gly Ile Gln Val Glu Leu  
1 5 10



<210> 74  
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<400> 74

Val Thr Cys Gly His Lys Lys Leu Glu Lys Gly Ile  
1 5 10

<210> 75  
<211> 23  
<212> PRT  
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<400> 75

Thr Cys Gly His Lys Lys Leu Glu Lys Gly Ile Gln Val Glu Leu Tyr  
1 5 10 15

Ser Phe Pro Arg Asp Pro Glu  
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<210> 76  
<211> 24  
<212> PRT  
<213> Homo sapiens

<400> 76

Pro Val Ser Phe Glu Asn Glu His Ser Tyr Leu Cys Thr Val Thr Cys  
1 5 10 15

Gly His Lys Lys Leu Glu Lys Gly  
20

<210> 77  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 77

Arg Thr Gln Ile Asp Ser Pro Leu Ser Gly Lys  
1 5 10

<210> 78  
<211> 16  
<212> PRT  
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<400> 78

Phe Ser Trp Arg Thr Gln Ile Asp Ser Pro Leu Ser Gly Lys Val Arg  
1 5 10 15

<210> 79  
<211> 18  
<212> PRT  
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<400> 79

Glu Ser Pro Ser Phe Trp Trp Arg Thr Gln Ile Asp Ser Pro Leu Ser  
1 5 10 15

Gly Lys

<210> 80  
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<400> 80

Thr Ala Ile Asp Ala Pro Ser Asn Leu Arg Asp Ala Ser  
1 5 10

<210> 81  
<211> 16  
<212> PRT  
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<400> 81

Thr Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro  
1 5 10 15

<210> 82  
<211> 17  
<212> PRT  
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<400> 82

Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro  
1 5 10 15

Ser

<210> 83  
<211> 19  
<212> PRT  
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<400> 83

Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser  
1 5 10 15

Leu Leu Val

<210> 84

<211> 36

<212> PRT

<213> Homo sapiens

<400> 84

Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser  
1 5 10 15

Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile  
20 25 30

Ile Lys Tyr Glu  
35

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<212> PRT

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Ile Asp Asp Val Pro Ser Thr  
1 5

<210> 86

<211> 16

<212> PRT

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<400> 86

Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr Val Gln Lys  
1 5 10 15

<210> 87

<211> 13

<212> PRT

<213> Homo sapiens

<400> 87

Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val  
1 5 10

<210> 88  
<211> 20  
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<400> 88

Ile Leu Asp Val Pro Ser Thr Val Gln Lys Thr Pro Phe Val Thr His  
1 5 10 15

Pro Gly Tyr Asp  
20

<210> 89  
<211> 17  
<212> PRT  
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<400> 89

Val Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val  
1 5 10 15

Pro

<210> 90  
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<400> 90

Glu Ile Leu Asp Val  
1 5

<210> 91  
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<400> 91

Ile Pro Arg Glu Asp Val Asp Tyr  
1 5

<210> 92  
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<400> 92

Gly His Ile Pro Arg Asp Asp Val Asp  
1 5

<210> 93  
 <211> 8  
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<400> 93

Gly His Ile Pro Arg Glu Asp Val  
 1 5

<210> 94  
 <211> 84  
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<400> 94

Leu Asp Val Pro Ser Thr Val Gln Lys Thr Pro Phe Val Thr His Pro  
 1 5 10 15

Gly Tyr Asp Thr Gly Asn Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln  
 20 25 30

Gln Pro Ser Val Gly Gln Gln Met Ile Phe Glu Glu His Gly Phe Arg  
 35 40 45

Arg Thr Thr Pro Pro Thr Thr Ala Thr Pro Ile Arg His Arg Pro Arg  
 50 55 60

Pro Tyr Pro Pro Asn Val Gly Glu Glu Ile Gln Ile Gly His Ile Pro  
 65 70 75 80

Arg Glu Asp Val

<210> 95  
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 <212> PRT  
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<400> 95

Pro Glu Ile Leu Asp Val Pro Ser Thr Val Gln Lys Thr Pro Phe Val  
 1 5 10 15

Thr His Pro Gly Tyr Asp Thr Gly Asn Gly Ile Gln Leu Pro Gly Thr  
 20 25 30

Ser Gly Gln Gln Pro Ser Val Gly Gln Gln Met Ile Phe Glu Glu His  
 35 40 45

Gly Phe Arg Arg Thr Thr Pro Pro Thr Thr Thr Ala Thr Pro Ile Arg  
50 55 60

His Arg Pro Arg Pro Tyr Pro Pro Asn Val Gly Glu Glu Ile Gln Ile  
65 70 75 80

Gly His Ile Pro Arg Glu Asp Val Asp Tyr  
85 90

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<400> 96

Met Pro Gly Lys Met Val Val Ile Leu Gly Ala Ser Asn Ile Leu Trp  
1 5 10 15

Ile Met Phe Ala Ala Ser Gln Ala Phe Lys Ile Glu Thr Thr Pro Glu  
20 25 30

Ser Arg Tyr Leu Ala Gln Ile Gly Asp Ser Val Ser Leu Thr Cys Ser  
35 40 45

Thr Thr Gly Cys Glu Ser Pro Phe Phe Ser Trp Arg Thr Gln Ile Asp  
50 55 60

Ser Pro Leu Asn Gly Lys Val Thr Asn Glu Gly Thr Thr Ser Thr Leu  
65 70 75 80

Thr Met Asn Pro Val Ser Phe Gly Asn Glu His Ser Tyr Leu Cys Thr  
85 90 95

Ala Thr Cys Glu Ser Arg Lys Leu Glu Lys Gly Ile Gln Val Glu Ile  
100 105 110

Tyr Ser Phe Pro Lys Asp Pro Glu Ile His Leu Ser Gly Pro Leu Glu  
115 120 125

Ala Gly Lys Pro Ile Thr Val Lys Cys Ser Val Ala Asp Val Tyr Pro  
130 135 140

Phe Asp Arg Leu Glu Ile Asp Leu Leu Lys Gly Asp His Leu Met Lys  
145 150 155 160

Ser Gln Glu Phe Leu Glu Asp Ala Asp Arg Lys Ser Leu Glu Thr Lys  
165 170 175

Ser Leu Glu Val Thr Phe Thr Pro Val Ile Glu Asp Ile Gly Lys Val  
 180 185 190  
 Leu Val Cys Arg Ala Lys Leu His Ile Asp Glu Met Asp Ser Val Pro  
 195 200 205  
 Thr Val Arg Gln Ala Val Lys Glu Leu Gln Val Tyr Ile Ser Pro Lys  
 210 215 220  
 Asn Thr Val Ile Ser Val Asn Pro Ser Thr Lys Leu Gln Glu Gly Gly  
 225 230 235 240  
 Ser Val Thr Met Thr Cys Ser Ser Glu Gly Leu Pro Ala Pro Glu Ile  
 245 250 255  
 Phe Trp Ser Lys Lys Leu Asp Asn Gly Asn Leu Gln His Leu Ser Gly  
 260 265 270  
 Asn Ala Thr Leu Thr Leu Ile Ala Met Arg Met Glu Asp Ser Gly Ile  
 275 280 285  
 Tyr Val Cys Glu Gly Val Asn Leu Ile Gly Lys Asn Arg Lys Glu Val  
 290 295 300  
 Glu Leu Ile Val Gln Ala Phe Pro Arg Asp Pro Glu Ile Glu Met Ser  
 305 310 315 320  
 Gly Gly Leu Val Asn Gly Ser Ser Val Thr Val Ser Cys Lys Val Pro  
 325 330 335  
 Ser Val Tyr Pro Leu Asp Arg Leu Glu Ile Glu Leu Leu Lys Gly Glu  
 340 345 350  
 Thr Ile Leu Glu Asn Ile Glu Phe Leu Glu Asp Thr Asp Met Lys Ser  
 355 360 365  
 Leu Glu Asn Lys Ser Leu Glu Met Thr Phe Ile Pro Thr Ile Glu Asp  
 370 375 380  
 Thr Gly Lys Ala Leu Val Cys Gln Ala Lys Leu His Ile Asp Asp Met  
 385 390 395 400  
 Glu Phe Glu Pro Lys Gln Arg Gln Ser Thr Gln Thr Leu Tyr Val Asn  
 405 410 415  
 Val Ala Pro Arg Asp Thr Thr Val Leu Val Ser Pro Ser Ser Ile Leu  
 420 425 430

Glu Glu Gly Ser Ser Val Asn Met Thr Cys Leu Ser Gln Gly Phe Pro  
 435 440 445

Ala Pro Lys Ile Leu Trp Ser Arg Gln Leu Pro Asn Gly Glu Leu Gln  
 450 455 460

Pro Leu Ser Glu Asn Ala Thr Leu Thr Leu Ile Ser Thr Lys Met Glu  
 465 470 475 480

Asp Ser Gly Val Tyr Leu Cys Glu Gly Ile Asn Gln Ala Gly Arg Ser  
 485 490 495

Arg Lys Glu Val Glu Leu Ile Ile Gln Val Thr Pro Lys Asp Ile Lys  
 500 505 510

Leu Thr Ala Phe Pro Ser Glu Ser Val Lys Glu Gly Asp Thr Val Ile  
 515 520 525

Ile Ser Cys Thr Cys Gly Asn Val Pro Glu Thr Trp Ile Ile Leu Lys  
 530 535 540

Lys Lys Ala Glu Thr Gly Asp Thr Val Leu Lys Ser Ile Asp Gly Ala  
 545 550 555 560

Tyr Thr Ile Arg Lys Ala Gln Leu Lys Asp Ala Gly Val Tyr Glu Cys  
 565 570 575

Glu Ser Lys Asn Lys Val Gly Ser Gln Leu Arg Ser Leu Thr Leu Asp  
 580 585 590

Val Gln Gly Arg Glu Asn Asn Lys Asp Tyr Phe Ser Pro Glu Leu Leu  
 595 600 605

Val Leu Tyr Phe Ala Ser Ser Leu Ile Ile Pro Ala Ile Gly Met Ile  
 610 615 620

Ile Tyr Phe Ala Arg Lys Ala Asn Met Lys Gly Ser Tyr Ser Leu Val  
 625 630 635 640

Glu Ala Gln Lys Ser Lys Val  
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Cys Tyr Tyr Gly Asn Cys  
1 5